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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/086,195

03/01/2002

Martin Johansson

4127-2

8130

7590

01/14/2004

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EXAMINER

PHAN, THO GIA

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,195

Applicant(s)

JOHANSSON ET AL.

Examiner

Tho G. Phan

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 31-35, 37-38, 40, 42, 44, 46, 48-58 are rejected under 35 U.S.C. 102(b) as being anticipated by Nalbandian et al (5,703,601).

Nalbandian et al disclose a low profile antenna structure, characterized in that it comprises a first metallic patch (4) and a second metallic patch (8) stacked over a ground plane (2), the first patch comprising a circumference along a patch edge of the first patch, the second patch comprising a circumference along a patch edge of the second patch, the first patch being arranged between the ground plane and the second patch, the first patch being grounded at at least a first zero potential area by electrical connection (31) with the ground plane and a second zero potential area by electrical connection (32) with the ground plane and being fed at a single feed area (18), the second patch being electrically interconnected (34,36) to the first patch, and the first patch comprises at least a first aperture (22) and a second aperture (24) located completely within the circumference of the first patch to thereby force current propagating from the feed area to the first zero

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potential area and the second zero potential area toward the patch edge of the first patch to thereby enable radiation from slots (6,10) defined by the edge of the first patch and the edge of the second patch and the ground plane.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 36, 39, 41, 43, 45, 47 and 59-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nalbandian et al in view of the EP publication (0 795 926).

Nalbandian et al also teach that the first/second aperture do not need to be circular (see column 2, line 52), but Nalbandian et al fail to teach the first/second aperture each have an extension, the second patch comprises no openings within its circumference, the second patch is electrically split into two halves, the first patch comprises further apertures and the ground plane is substantially of the same size as the first/second patch. However, the EP publication (0 795 926) discloses the second patch comprises no openings within its circumference, the second patch is electrically split into two halves (see figure 1). It would have been obvious design choice to provide the second patch comprises no openings within its circumference, the second patch is electrically split into two halves as taught by the EP publication for the purpose of improving the antenna gain.

Regarding to the first patch comprises further apertures and the ground plane is substantially of the same size as the first/second patch, it would have been obvious design choice

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to provide the first patch comprises further apertures and the ground plane is substantially of the same size as the first/second patch into Nalbandian et al for the purpose of improve coupling and provide impedance matching for the antenna.

Applicant should note that the recitation of "a personal computer card and a wireless local area network system" in claims 59-60 is considered merely intended use which fails to patentably distinguish the claims.

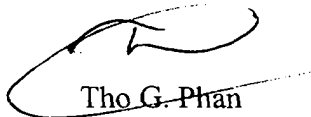
Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Zhou, Toit et al, Herve et al and Poilasne et al are cited as of interested and illustrate a similar structure to patch antennas assembly.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho G. Phan whose telephone number is 703-308-3051. The examiner can normally be reached on (M-R), monday-thursday (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 703-308-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Tho G. Phan
Primary Examiner
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